23 February 1983

PRESENTATIONS

25 X 1	1.	OC Mission and Why Recapitalization	Deputy Director of Communications
25 X 1	2.	Recapitalization - Foreign Network	Chief, Foreign Networks Division
25 X 1	3.	Recapitalization - Domestic Network	Chief, Domestic Networks Division
25 X 1	4.	Recapitalization - Special Projects	Chief Engineering Division

OFFICE OF COMMUNICATIONS

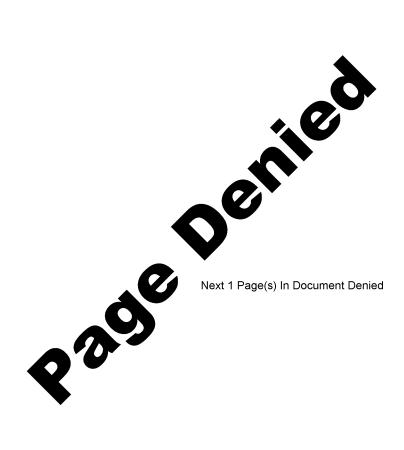
25X1

22 February 1983

THE OC MISSION

- Narrative Message (Overseas & Domestic)
- · Data Network
- Headquarters Dissemination
- Technical Support to Overseas and Domestic Information Handling Systems
- National Programs
- · Secure Voice
- Unclassified Telephone

- Local Utility Nets
- · Communications Security



22 February 1983

OVERSEAS NETWORK PROFILE

5X1	FIE	D STATIONS
5 X 1		SATELLITE
5 X 1		LEASED LINE STATE PRIMARY CARRIER AT 9) Primary
5 X 1	MAJO	DR BASE STATIONS
	LEAS	HAVE SATELLITE/HIGH FREQUENCY RADIO/ SED LINE CAPABILITY SE OF THE FOUR HAVE COMPUTER SWITCHING SYSTEMS
5 X 1	SATE	CLLITE RELAY FACILITY
5X1 5X1 5X1	FIEL	D STATIONS HAVE OFF-SITE EMERGENCY SECURE COMMUNICATIONS
5X1 5X1	OFF-	SITE CRISIS VOICE REPORTING SYSTEMS



22 February 1983

FOREIGN NETWORK

25X1

25**X**1

Locations	Staffing
	1 - Professional Communicator
	2 - Professional Communicators
	3 - Professional Communicators
	4 or more Professional Communicators
	Communications performed by other than Professional Communicators will diminish - Oc
	Base Stations take over

DOMESTIC NETWORK

Locations	Staffing
	1 - Professional Communicator
	2 - Professional Communicators
	3 - Professional Communicators
	Communications performed by other than Professional Communicators
	Base Station
	Data Communications Center

S E C R E T

22 February 1983

GENERAL OUTLINE OF SUPPORT INFRASTRUCTURE

- 40 Instructors 65-70 courses SCHOOL
- -- REPAIR AND RETURN
- FIELD TECHNICAL TEAMS
- FIELD WAREHOUSING
- ENGINEERING APPLICATIONS
- OPERATIONAL APPLICATIONS

SECRET

25X1

NETWORK SURVIVABILITY

THERE SHALL BE NO LOSS OF COMMO

- 1 TRANSMISSION EQUIPMENT FAILURE (Redundancy)
- 2 CRYPTO EQUIPMENT FAILURE
- 3 CRYPTO COMPROMISE
- 4 BASE STATION FAILURES
- 5 NO ACCESS TO OFFICIAL FACILITY
 - TRANSPORTABLE FACILITY
 - OFF-SITE CAPABILITY
- 6 POWER FAILURE
- 7 ALTERNATE COMMO PATH FAILURES
 - SATELLITE
 - ALTERNATE SATELLITE
 - HIGH FREQUENCY
 - ALTERNATE HIGH FREQUENCY
- 8 HUMAN FAILURE
- 9 OPERATOR TRAINING/EXERCISES

SECRET

"NETWORK SURVIVABILITY MIOCARER CONOCE POSTINI

VUGRAPA

B01152R000801100002-8 Approved For Release 20



25X1

SECRET

18 February 1983

1982 13M Mesoages 1966 5M

CURRENT NETWORK CONCERNS

message 2 his which at one time took 16 his

- · CAPACITY . Serve no. Cust & all want trove speed
- · FLEXIBILITY

 « Handle varity of ren
- · SURGE REQUIREMENTS
- · CONTINGENCY
- · OUTAGES Domestie terminals fail at least
- · PRODUCTIVITY
- TRAINING

· Training on all : new systems at same line

· SURVIVABILITY

90 % Cables dessimulated Cento.

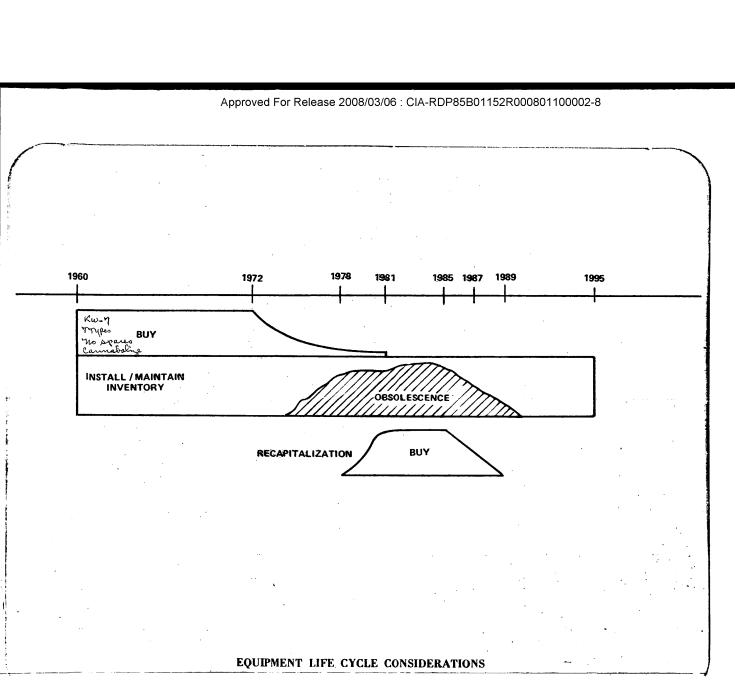
23 February 1983

RECAPITALIZATION

CONSIDERATIONS

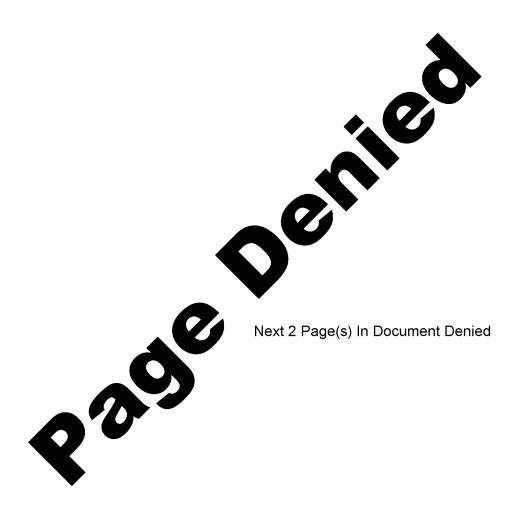
NETWORK MANAGEMENT OF GROWTH/COMPATIBILITY

- Customer Service Needs/All Source
- 2. Status of Current Network/Productivity
- Applying Modern Technology National Policy Needs PD-53 & NSDD 55 4.
- CIA Responsibilities 5.
- Economic Considerations Rig Dung 6.
- Network Profile Projections 7.
- Impact on Human & Physical Resources 8.
- 9. Implementation & Deployment Plan

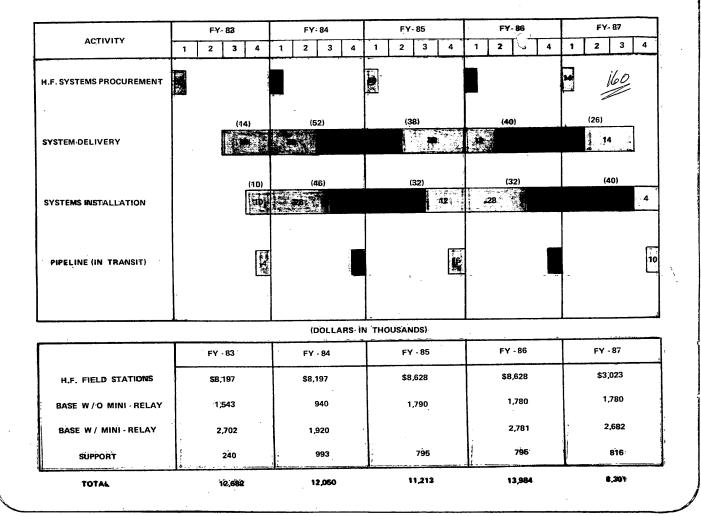


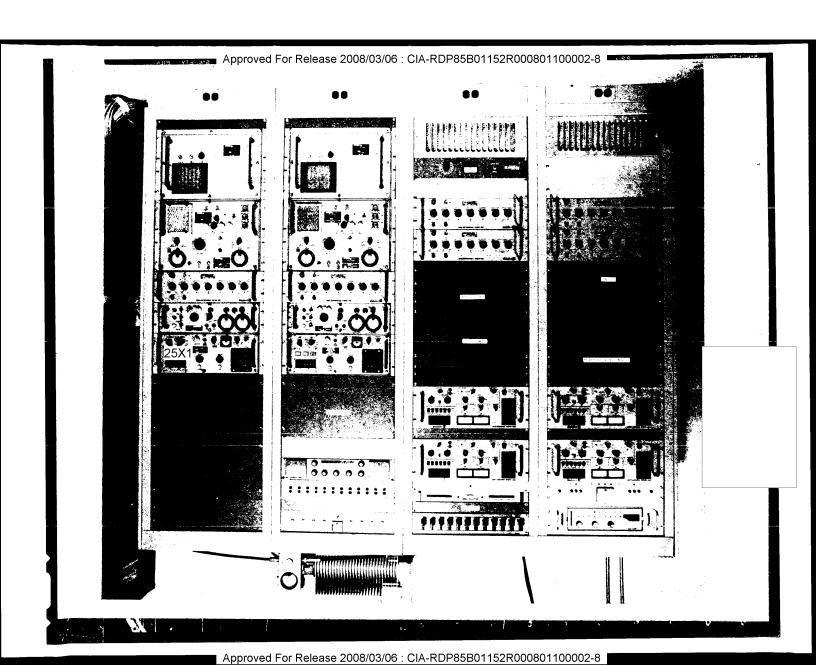
18 February 1983

	Recapi	talization will provide:
5 X 1	•	Up to SKYLINK satellite communications terminals.
5X1	•	Upgraded high frequency, terminal, and cryptographic equipment for foreign field stations and 3 base stations.
5 X 1	<u>.</u>	Off-site emergency communications capabilities at up to overseas locations and appropriate major relay facilities.
	•	A Metropolitan Distribution System capable of supporting growing Agency-wide information processing systems.
	•	Modern message switching and network terminal systems (Project MERCURY).
	•	New message handling/dissemination systems.
5 X 1	•	Upgraded equipment for more than domestic field installations.
5X1	•	secure voice instruments.
	•	Necessary site preparation/renovations.
	•	Training, maintenance, and logistics support.



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TERMINAL SYSTEMS

	- 87	Υ-	F١			1			36	/ - E	F٧		1			85	FY.			 - 84	FY					- 83	FY			- 1	ACTIVITY
3 4	:		2	I	1	Ī	4	Ι	3	Ι	2	1	1	4		3	2	1	4	3	2		1	4		3	2	1	1		
					5	15												39	4].	687	·	AL SYSTEMS EMENT
	5	**;			ľ		į	4"		ļ		4			35								15		40						DELIVERY
2											 	10			29):	29		- 3	26		į				INSTALLATION
														•										P4					·		NE (IN TRANSIT)
												10	1	<u> </u>	29							299				**************************************	i				

(DOLLARS IN THOUSANDS)

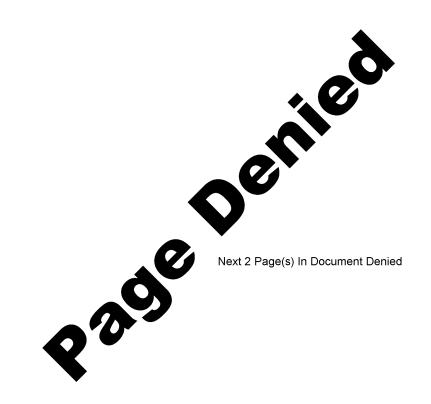
	FY - 83	FY - 84	FY - 85	FY - 86	FY - 87 、
MESSAGE PROCESSOR	\$2,909	\$1,862	\$2,009	\$2,026	\$591
OPTICAL READER	2,013	1,391	1,427	952	183
PAPER TAPE PROCESSOR	1,252	865	888 ⁻	592	114
SUPPORT	442	782	850	425	221
TOTAL	6,616	4,900	5,174	3,995	1,109

Approved For Release 2008/03/06 : CIA-RDP85B01152R000801100002-8 SITE RENOVATION PROGRAM F.Y-,83 FY-84 FY-:86 FY-:85 FY-87 ACTIVITY 2 -3 4 1 2 3 4 2 3 4 1 2 3 4 2 3 4 PWR 14 SYSTEMS PROCUREMENT 12 40 52 40 761 SYSTEM DELIVERY 16 SYSTEM INSTALLATION 40 • (DOLLARS IN THOUSANDS) FY - 83 FY - 86 FY - 87 FY - 84 FY - 85 AIR CONDITIONING \$407 \$555 \$592 \$185 \$370 POWER 1,375 1,875 2,000 625 1,250 1,215 1,755 2,700 2,700 1,350 SITE-EXPANSIONS 1,050 1,750 1,050 1,050 1,750 NOB 886 886 886 1,480 1,480 3,192 2,279 2,831 2,2:01 2,497 BASE STATION FACILITIES TOTAL 8;125 9,100 10,059 8,241 8,697

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25X1

25X¹



CONFIDENTIAL

RECAPITALIZATION BUDGET SUMMARY

•					
	FY	-83	FY-	· 8 <u>.4</u>	
EQUIPMENT PROJECTIONS:	Ī	P	Ī	P	
HF RADIO	10	38	46	38	I=INSTALLATION
MESSAGE TERMINALS	26	55	46	3 8	P = PROCUREMENT
FACILITIES	16 (L)	4 0 (S)	18 (L)	52 (S)	S = SYSTEMS
					L = LOCATION
COST PROJECTIONS: (FY-82 Dollars in Thousands)					R = SITE PREP/RENOVATION
EQUIPMENT	240	12,442	993	1:1;057	
MESSAGE TERMINALS	442	6,174	782	4,118	
FACILITIES	3,981 (R) 4,144 (R)	4,459 (R)	4,641 (R)	
TOTAL	4,663	22,760	6,234	19,816	
MAINTENANCE	371	10	1,00	óo	<i>i</i> :
TRANSPORTATION			2,58	35	1

7 February 1983

HF Equipment

FAN 1040 48 PRS Equipment plus accessories

FY-83 Budget \$10,474K Prewired racks, antennas, barry modems,

not yet ordered. \$6,382K SUB TOTAL:

Terminal Equipment

FAN 1060	TERP II A - 62 TERP II Accessor	ies		3,278 268
	OCR's - 33 HSPTRP CXK-307 FPA	- 105		1,606 1,220
	FY-83 Budget	\$ 6,616K	SUB TOTAL:	125 \$6,497K

Site Preparation and Renovation

	·		
FAN 1010	Survey Costs, S/E, A/C Generator		\$1,630K
	T & I Shop Franconia Contractor Support MEAR Teams		200
	Installation Techs.		
	T & I Techs.		1,176
	FY-83 Budget \$8.025K	SUB TOTAL:	\$3,006

TOTAL:

\$15,885K

METROPOLITAN DISTRIBUTION SYSTEM, MDS

MDS ADDRESSES THE TRANSMISSION OF VOICE AND DATA DEFINITION:

INFORMATION WITHIN & AMONG AGENCY FACILITIES & OTHER

GOVERNMENT AGENCIES IN WASHINGTON METROPOLITAN AREA.

OBJECTIVE:

TO PROVIDE ESSENTIAL TRANSMISSION SERVICES REQUIRED

BY AGENCY'S INFORMATION PROCESSING SYSTEMS

APPROACH:

MODERNIZE, EXPAND & ENHANCE SERVICES AVAILABLE TODAY

USING EXISTING NETWORK ARCHITECTURE AND OFF-THE-SHELF

TECHNOLOGY.

COMPONENTS: MICROWAVE RADIOS, MILLIMETER WAVE RADIOS, MULTIPLEXERS

CONCENTRATORS, SECURE WIRE GRIDS, COAXIAL & FIBER

OPTIC CABLES BUS SYSTEMS.

FY-84 MDS PROGRAM

25X1

CONSTRUCT SECURE WIRE GRID FOR \$ 600K 400K CONSTRUCT SECURE WIRE GRID FOR PROCURE TRANSMISSION MULTIPLEXERS (VOICE & DATA) TO BEGIN REPLACEMENT OF EXISTING OBSOLETE EQUIPMENT (CO-1, & CY-104)400K PROCURE INSTALLATION MATERIAL FOR MILLIMETER WAVE 105K RADIOS PURCHASED IN FY-83 ESTABLISH MAINTENANCE CONTRACTS (3) FOR TRANSMISSION EQUIPMENT PURCHASED IN FY-83 185K \$1735K TOTAL

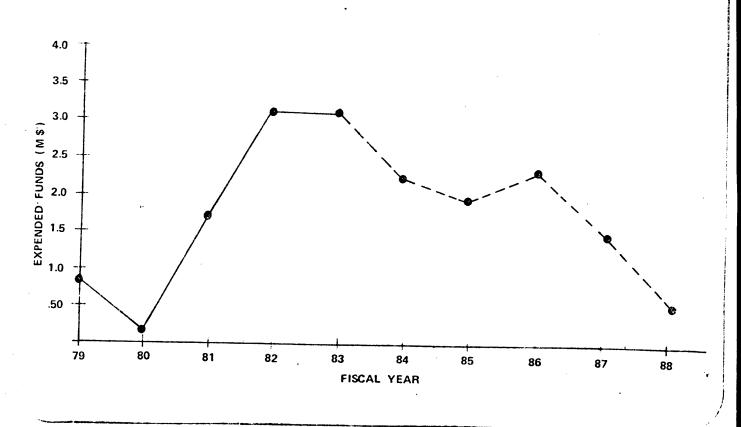
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COM 11-82

25X1

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HSTS SECURE VOICE TELEPHONES

INSTALLED BY END OF

25X1

FY-81:

FY-82:

PLANNED TO BE INSTALLED BY END OF FY-83:

FY-84:

SECRET

COM 11-82

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DOMESTIC NETWORKS DIVISION ONGOING RECAPITALIZATION AND TERMINAL EQUIPMENT REQUIREMENTS FY-1984 BUDGETARY REQUIREMENTS

MISCELLANEOUS REPAIR AND RETURN		\$	20 K
TERMINAL MAINTENANCE SUPPORT CONTRACT			363K
RENOVATIONS, INSTALLATION MATERIALS AND ANCILLARY EQUIPMENT			298K
PROCUREMENT OF OPTICAL CHARACTER READERS	12 at 55K		660K
PROCUREMENT OF FACSIMILE UNITS FOR DDS&T NEW STATIONS	27 at 55K	1	,350K
PROCUREMENT COMMUNICATIONS TERMINALS TRACOR OR WANG	92 at 16K 46 at 32K	1	,472K
TOTAL		\$4	.163K

()<u>.</u>

DOMESTIC TERMINAL PROGRAM

FACILITIES

25X1

25X1

CLASS I FACILITIES (CRAFT A	SSOCI	ATED):
UPGRADE: UPGRADE:	23 17	NEW 15 NEW -
TOTAL	40	NEW 15
CLASS II FACILITIES (NARRAT	IVE EX	(CHANGE):
STAFF UPGRADE: CONTRACTOR UPGRADE.	19 50	NEW - NEW 15
UPGRADE: CONTINGENCY:	9	NEW 34 NEW 6
TOTAL	78	NEW 55
CLASS III TERMINALS (METROPE	OLITAN	FACILITIES):
TELECOM OPERATIONS CENTER UPGRADE: OUTBUILDINGS UPGRADE: OTHER HQS AREAS UPGRADE:	19	
TOTAL	51	
CLASS IV FACSIMILE:		

UPGRADE:

23

NEW 217

DOMESTIC TERMINAL PROGRAM

THE NEED

MAINTENANCE:

FAILURES INCREASING PARTS AVAILABILITY TECHNICIAN TIME

AVAILABILITY:

NEW FACILITIES DELAYED SINGLE TERMINAL OPERATIONS

OPERATIONAL FEATURES:

DIFFICULT TO OPERATE LABOR INTENSIVE 100 WPM (75BPS) LIMITED NOT COMPATIBLE WITH CRAFT

OPERATIONAL PRIORITIES:

REDUCE DEMANDS	FOR	PROFESS	SIONAL
COMMUNICA	TORS		
SUPPORT TO			PROGRAMS
INCREASE RELIA	BTLT	rY	

25X1

25X1

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IMPLEMENTATION PLAN

	FY8 ₂ 2	8,3	8	4	8,	5	8,6	3,7 8,8
TERMINAL SELEC,TION	ļ			a ·				
TERMINAL PROCUREMENT			- 200* (100)	92		48	20	
SITE SURVEY & PREPARATION								
KG-84 DELIVERY			77	156		555	-	·
UPGRADE/NEW TYPE I TYPE II TYPE III			12 5 29	24 30 10		19 30 12	35	33
FACSIMILE SELECTION TYPE IV							-73	
FACSIMILE PROCUREMENT					27	48	4.5	40
FACSIMILE INSTALLATION					ļ	40	40	40
STU-II DELIVERY								4 .
						, O.		

*BUDGETED AT \$8K PER TERMINAL

PROJECTS SUPPORTED IN MESSAGE HANDLING SYSTEMS PROGRAM

- SOFTWARE MAINTENANCE CONTRACT SUPPORT FOR THE CABLE DISSEMINATION SYSTEM
- SOFTWARE SUPPORT FOR EXISTING COMPUTER BASED MESSAGE HANDLING SYSTEMS, SUCH AS
 - AUTOMATED FIELD TERMINAL
 - UNATTENDED OPERATION TERMINAL
 - OPTICAL CHARACTER READERS
 - TERP-IIA
- AUTOMATION OF THE FACILITY
- THE MESSAGE HANDLING FACILITY

SECRET

25X1

MESSAGE HANDLING FACILITY

DESCRIPTION: A COMPUTER SYSTEM TO RECEIVE ALL

CABLES SENT TO CIA AND DISSEMINATE THEM THROUGHOUT CIA HEADQUARTERS.

OBJECTIVE: REPLACE TWO OBSOLESCENT COMPUTERS

WHICH ARE NO LONGER COMMERCIALLY SUPPORTED WITH AN INTEGRATED SYSTEM

EXPLOITING CURRENT TECHNOLOGY.

CUSTOMERS: ALL AGENCY WATCH OFFICES

SAFE SYSTEM ALLSTAR SYSTEM

PRINTING AND REPRODUCTION SYSTEMS

'OUT' BUILDINGS

APPROACH: AS A JOINT DEVELOPMENT WITH THE OFFICE

OF DATA PROCESSING, THIS PROJECT WILL MAKE USE OF HARDWARE AND SOFTWARE ACQUIRED SPECIFICALLY FOR THE PROJECT AS WELL AS IN-PLACE AUTOMATED DATA

PROCESSING EQUIPMENT.

MESSAGE HANDLING FACILITY FY-84 BUDGET

HARDWARE

DISK DRIVES \$1,000,000

TERMINALS 600,000

COMMUNICATION PROCESSORS 400,000

OTHER 632,000

2,632,000 \$2,632,000

PERSONAL SERVICES CONTRACT

800,000

OTHER (SOFTWARE LICENSES, ETC.)

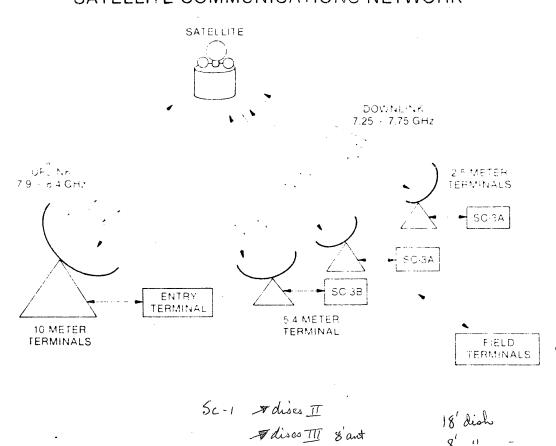
92,000

TOTAL:

\$3,524,000

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SATELLITE COMMUNICATIONS NETWORK



 O_{i}

SKYLINK

TERMINAL STATUS

OPERATIONAL

SC - 1	Terminals	
SC - 3	Terminals	<u>.</u>
SC - 4	Entry Terminals 6	
	TOTAL59	active

SC-3 PROCUREMENT

Procured	Through FY	- 81	• • • • • • • • •	• • • • • • • • •	•••••	49
On Order	FY - 82/FY	- 83 •••••	•••••	••••••	••••	•• 25
				TOTAL.	• • • • • • • • •	74

1 February 1983



SKYLINK FY-84 BUDGET

\$11, 274K

81,549KCONTRACTUAL SERVICES				
81,070KINSTALLATION_CONTRACTS				
8225KEQUIPMENT_MODIFICATIONS				
8100K REMOTE CONTROL STUDY				
8154K SCHENTIFIC AND ENGINEERING SUPPOR	RT.			
81,020KSUPPLIES AND MATERIALS				
8817KSPARE PARTS FOR FIELD AND ENTRY STATIONS				
S173KTOOLS AND HARDWARE FOR SC 3 INS	STALLATIONS			
812,765K EQUIPMENT				
\$5,853KSC_3_TERMINALS	(9 EACH)			
S1,570KSC - 3 TRANSPORTABLE TERMINALS	(2 ± ACH)			
8540KCARRIER MEASUREMENT SYSTEM FOR OPANA				
8352K RADOMES TEST EQUIPMENT	(9 EACH)			
8390K HIGH SPEED MODEMS	(6 SETS)			

1 February 1983

PROBLEMS

- OBSOLETE SWITCHING SYSTEMS

 NO ERROR CONTROL

 NO ACCOUNTABLETY IN BACKBONE DATA METHODS ● NO ACCOUNTABILITY IN BACKBONE DATA NETWORK
 - LIMITED CIRCUIT CAPACITY
 - SATELLITE POWER
 - LEASE COSTS
 - LEASE COSTS

 LIMITED HF BANDWIDTH
 - DEDICATED CIRCUITS REQUIRED FOR NON-MESSAGE SERVICES
 - OLD, SINGLE PURPOSE MESSAGE SWITCHES
 - MANUAL CIRCUIT ESTABLISHMENT FOR PART TIME SERIVCES (FACSIMILE, CONVERSATIONAL, INTERACTIVE
 - MANUAL MESSAGE PROCESSING IN FIELD
 - NO FLEXIBILITY OR EXPANDABILITY

ENVIRONMENT

- RAPID ADVANCES IN ELECTRONICS
- INCREASING USE OF DATA PROCESSING APPLICATIONS
- NEED FOR CENTRALIZATED CONTROL AND STORAGE
- INCREASINGLY COMPLEX ORGANIZATIONS AND OPERATIONS
- OLD, SINGLE PURPOSE, LIMITED CAPACITY EXISTING SYSTEMS

SOLUTIONS

- SERVICES
 - NARRATIVE MESSAGE
 - DATA MESSAGE
 - BULK DATA
 - TRANSACTIONAL
 - INTERACTIVE
 - CONVERSATIONAL
- PACKET SWITCH NETWORK
 - END TO END ACCOUNTABILITY
 - CONNECTIVITY
 - ERROR CONTROL
- SYSTEM MANAGEMENT
 - NETWORK CONTROL
 - SERVICE CONTROL

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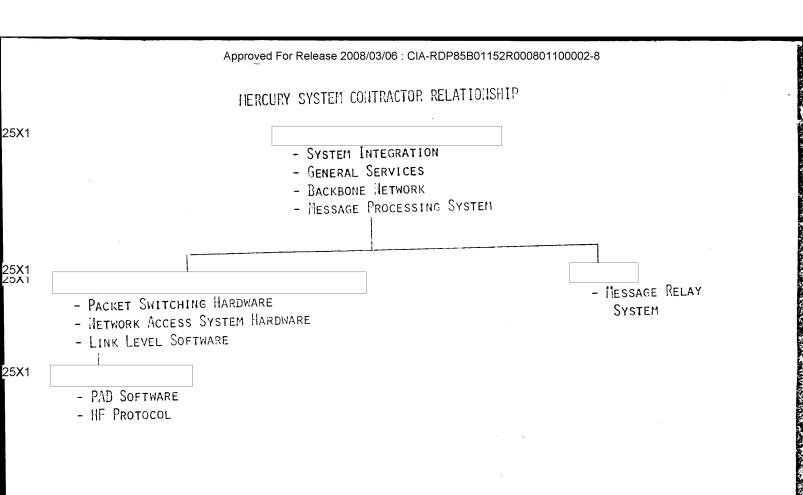
Approved For Release 2008/03/06 : CIA-RDP85B01152R000801100002-8 NETWORK OVERVIEW SERVICES/APPLICATION BACKBONE NETWORK SERVICES/APPLICATION WIDEBAND VIDEO AND NARRATIVE **TRANSMISSION** MESSAGE DATA TERMINALS NETWORK: TERMINALS SKYLINK HF MICROWAVE NARRATIVE HIGH SPEED FACSIMILE LEASED MESSAGE TERMINALS SWITCHES DATA MESSAGE TELEPHONES AND SWITCHES TELEPHONE SWITCHES DATA COMMUNICATIONS SWITCHES DATA COMMUNICATIONS TERMINALS AND HOSTS MEDIUM SPEED FACSIMILE DATA COLLECTION TERMINALS

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NETWORK ACCES ERBGR CONTROL MU. TIPLEXAND CIRCUIT SWITCHING NETWORK CONTROL

EXPLANATION OF OVERALL OBJECTIVES AND COMPARISONS OF NETWORK:

PRESENT	FUTURE	
PRESENT		
SINGLE PURPOSE	MULTIPURPOSE, MULTIUSER, MULTIFORMAT	
DISTRIBUTED	CENTRALIZED WITH DISTRIBUTED BACKUP	
FREE RUNNING	CONTROLLED	
CODE SENSITIVE	CODE AND FORMAT TRANSPARENT	
SENSITIVE TO CHANNEL DISTURBANCES	ESSENTIALLY ERROR FREE, ISOLATES USER FROM CHANNEL/EQUIPMENT PROBLEMS	
MANUAL NETWORK CONTROL	AUTOMATIC NETWORK CONTROL	
MANUAL MESSAGE PREPARATION	SIMPLIFIED/ AUTOMATED PREPARATION	



MERCURY SUPPORT CONTRACTORS

25X1

- Overall Technical Review
- System Engineering Assistance

25X1

- Software Management Assistance

25X1

- TEMPEST GUIDANCE, ASSISTANCE, AND TESTING

CONTRACT DETAILS

- CONTRACT TYPE: COST PLUS AWARD FEE

- BASE CONTRACT COST:

Cost: \$27,230,000

3% FIXED FEE: 813,000

TOTAL: \$30,753,000

CONTRACT DETAILS, CONTINUED

25,	X	1

SUBCONTRACT THROUGH FUNCTIONAL DESIGN:

Cost: \$1,781,685

TOTAL: \$1,938,979

25X1

- ESTIMATED CONTRACT AFTER FUNCTIONAL DESIGN:

\$6,500,000

PROJECTED SCHEDULE

	SCHEDULE	
ACTIVITY	MONTHS	DATE
- START OF WORK	0	Aug 81
*- APPROVAL OF IMPLEMENTATION ARCHITECTURE DOCUMENT	15	Nov 82
- Approval of Functional Design Specification	20	Apr 83
- Critical Detailed Design Review, Build 1	22	Jun 83
- Critical Detailed Design Review, Build 6 (Last)	33	May 84
Approval of Total Detailed Design Spec.	34	Jun 84
- FIRST NSC, PSS, 3 NASs INSTALLED	41	Jan 85
- ACCEPTANCE TESTING OF NSC, PSS, NASS COMPLETE	46	Jun 85
- SECOND NSC INSTALLED, 7 NASS DELIVERED	48	Aug 85
FINAL SYSTEM ACCEPTANCE COMPLETE	51	Nov 85

^{*}Award Fee Milestones

MERCURY DELIVERABLES

Under System Contract:

- 2 HETWORK SERVICE CENTERS
- 1 PACKET SWITCHING SYSTEM
- 10 NETWORK ACCESS SYSTEMS

OPTION OF PRODUCTION QUANTITIES (PROCUREMENT BEGINNING IN FY 1986)

- 1 Network Service Center (\$3,500,000)
- 3 PACKET SWITCHING SYSTEMS (\$111,000 EACH)
- 160 Hetwork Access Systems (\$92,500 average cost each)

TOTAL PROJECTED PRODUCTION COST IS \$18,633,000